



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,238	12/08/2004	Marc Baumer	PAT-01028	2711
26922	7590	09/29/2008		
BASF CORPORATION			EXAMINER	
Patent Department			TRAN, BINH X	
1609 BIDDLE AVENUE				
MAIN BUILDING			ART UNIT	PAPER NUMBER
WYANDOTTE, MI 48192			1792	
			NOTIFICATION DATE	DELIVERY MODE
			09/29/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

MARJORIE.ELLIS@BASF.COM
cdavenport@cantorcolburn.com
Mgolota@CantorColburn.com

Office Action Summary	Application No. 10/517,238	Applicant(s) BAUMER ET AL.
	Examiner Binh X. Tran	Art Unit 1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 08 December 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 23-45 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 23-45 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1448)
 Paper No(s)/Mail Date 12/08/2004

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____

5) Notice of Informal Patent Application

6) Other: _____

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 43-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 43 recites the limitation "B1" (i.e. constituents B1) in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 43 recites the limitation "B2" (i.e. constituents B2) in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 43 recites the limitation "the ground mixture (1)" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 43 recites the limitation "the resulting mixture (2)" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 44 is indefinite because it depends on indefinite claim 43.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 23-24, 26-37, 40-41, 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Piana (US 5,739,204) in view of Tanaka et al. (US 6,482,536), hereinafter refer as Tanaka ('536).

Respect to claims 23-24, Piana discloses a coating material comprising:
a polyester selected from the group consisting of aliphatic and aromatic polyester having an acid number less than 10 (col. 2 lines 40-55, Table 1); a hydroxyl number (OH number) greater than 30, preferable greater than 35 (Table 1, col. 4 lines 60-65);
a cross linking agent at least two amino-containing resins of different reactivity (col. 3 lines 2-8);

at least one electrically conductive pigment (col. 3 lines 12-14, col. 4 lines 23-27).

Piana fails to disclose the number average molecular weight of the polyester.

Tanaka ('536) discloses a polyester resin having number average about 1,500 to 35,000, preferably about 2,000 (col. 2 lines 50-58). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Piana in view of Tanaka ('536) by having the number average molecular weight of polyester between about 2,500 because it provides a coating composition having excellent properties in corrosion resistance, boiling water resistance and fabrication properties (col. 1 lines 6-12).

Respect to claim 26, Tanaka ('536) teaches the polyester has a glass transition temperature (Tg) in the range of 10-100 °C (col. 2 lines 48-59, read on applicant's range of -20 to 50 °C). Respect to claim 27, Piana teaches to use 10-50 wt% of the polyester (col. 2 lines 38-40). Respect to claim 28, Piana discloses the coating further comprises one or more of the following constituents: rust inhibitors (col. 5 lines 29-30; read on anticorrosion pigment); organic solvent (col. 5 lines 11-20); silicates (col. 5 lines 25). Respect to claim 28, Tanaka ('536) also discloses the coating further comprises one or more of the following constituents: anticorrosion pigment (col. 11 lines 56-58); at least one amorphous silica modified with metal ion (i.e. Sylisia modified with aluminum ion; Table 1); at least two catalysts (i.e. Epikote™ and Nacure™; Table 1, col. 11); at least one organic solvent; col. 10 lines 60 to col. 11 line 8);

Respect to claims 29-30, Piana disclose the cross-linking agents comprises benzoguanamine-formaldehyde resins that have been at least partly etherified with

methanol and malamine-formaldehyde resin have been at least partly etherified with methanol (col. 3 lines 2-8, col. 5 lines 1-11).

Respect to claim 31, Piana discloses to use benzoguanamine-formaldehyde having the molar ratio of melamine to formaldehyde from 1:4.5 to 1:6 and benzoguanamine-formaldehyde having a molar ratio of benzoguanamine to formaldehyde 1.2.5 to 1:4 (col. 3 lines 3-8). Piana fails to explicitly disclose the weight ratio of benzoguanamine-formaldehyde (B1) to melamine formaldehyde (B2). However, Piana clearly discloses the use both B1 and B2 and the molar ratio for each constituent. Any person having ordinary skill in the art would be able to convert molar ratio to weight ratio if the weight molecular and the amount of each constituent is known. It would have been obvious to one having ordinary skill in the art, at the time of invention, to perform routine experiment to select proper weight ratio because it has been held that determination of workable ranges is not considered inventive.

Respect to claim 32, Piana disclose the cross linking agent (B) is in the amount of 5-40 wt% (col. 3 lines 2-4, col. 10 lines 57-60, read on applicant's range of 1-10 wt%). Respect to claim 33, Piana disclose the conductive pigment C is selected from the group consisting of titanium dioxide, zinc oxide, iron oxides, silicates, chromium pigments (col. 5 lines 23-25, read on elemental silicon and metallic).

Respect to claim 34, Piana teaches to use anticorrosion pigment. However, Piana fails to disclose the anticorrosion pigment is selected from the group consisting of zinc phosphate, zinc orthophosphate, zinc metaborate and barium metaborate. Tanaka ('536) teaches to use zinc phosphate, as the anticorrosion pigment (col. 11 lines 55-60).

It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Piana and Yamada in view of Tanaka ('536) by using anticorrosion pigment selected from the group consisting of zinc phosphate and barium metaborate because equivalent and substitution of one for the other would produce an expected result.

Respect to claim 35, Tanaka ('536) teaches to use amorphous silica (i.e. Sylisia™) treated with aluminum tripolyphosphate (read on aluminum ion since aluminum tripolyphosphate is soluble and produce Al ion) (See Table 1).

Respect to claims 36-37, Piana teaches to use catalysts (col. 5 lines 30-33). However, Piana fails to disclose the specific structure of the catalysts. Tanaka (536) teaches to use catalyst selected from the group consisting of acidic epoxy resin-phosphoric acid adducts (i.e. Epikote™ catalyst; col. 14, Table 1); and at least one other catalyst selected from the group consisting of block sulfonic acid (i.e. Nacure™; See col. 13 lines 50-60, Table 1). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Piana and Yamada in view of Tanaka ('003) by using catalyst selected from acidic epoxy resin-phosphoric acid adducts; and at least one other catalyst selected from the group consisting of block sulfonic acid because it provides a coating composition having excellent properties in corrosion resistance, fabrication properties, adhesion properties and boiling water resistance (col. 1 lines 5-12). Further, equivalent and substitution of one catalyst for the other catalyst would produce an expected result.

Respect to claim 40, Piana discloses the composition comprises 15-50 wt% of organic solvent (col. 3 lines 10-12, read on applicant's range of 3 to 70% by weight).

Respect to claim 41, Tanaka ('536) discloses the composition comprises at least one compound based on a polyphenol containing at least one epichlorohydrin group; wherein the polyphenols are selected from the group consisting of bisphenol A and bisphenol F (col. 4 lines 29-50)

Respect to claim 43, both Piana and Tanaka ('536) disclose coating a metal coil with a polymer coating (Piana's col. 45, Tanaka ('536) col. 1 lines 15-20). Piana and Tanaka ('536) further disclose forming an automotive part or body, architectural articles, household appliance from the coated metal coil (Piana col. 5 lines 38-47; Tanaka ('536) col. 13 lines 12-17).

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Piana and Tanaka ('536) as applied to claims 23-24, 26-37, 40-41, 45 above, and further in view of Smith et al. (US 5,852,162).

Respect to claim 25, Piana and Tanaka ('536) fail to disclose the polyester has molecular weight polydispersity of less than 10. However, both Piana and Tanaka ('536) clearly disclose the present of polyester in the composition. Smith teaches to use polyester having polydispersity less than 2, preferably below 1.8 (abstract, col. 2 line 1-5). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Piana and Tanaka ('536) in view of Smith by having polyester with polydispersity of less than 2 because low polydispersity polyester can be conveniently formed in a stepwise reaction. Further, it would have been obvious to one having

ordinary skill in the art, at the time of invention, to perform routine experiment to select proper polydispersity value because it has been held that determination of workable ranges is not considered inventive.

7. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Piana and Tanaka ('536) as applied to claims 23-24, 26-37, 40-41, 43 above, and further in view of Rees (US 4,826,899).

Respect to claim 42, both Piana and Tanaka ('536) fail to disclose the composition comprises a compound of the general formula II:



in which the variables R, R1, and R2 independently of one another stand for aliphatic and cycloaliphatic radicals and M is titanium, zirconium, or aluminum.

Rees discloses a composition comprises a coupling agent comprises organotitanate including Ken-React™ compound (col. 4 lines 15-60, col. 5 lines 1-5, read on applicant's formula II). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Piana and Tanaka in view of Rees by using coupling agent having the formula as discussed above because coupling agent helps to increase the tensile strength and improve the elongation at break of the polyester composition (col. 4 lines 5-15).

8. Claims 23-24, 27-33, 40, 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Piana (US 5,739,204) in view of Yamada et al. (US 4,734,467).

Respect to claims 23-24, Piana disclose a coating material comprising:

a polyester selected from the group consisting of aliphatic and aromatic polyester having an acid number less than 10 (col. 2 lines 40-55, Table 1); a hydroxyl number (OH number) greater than 30, preferable greater than 35 (Table 1, col. 4 lines 60-65); a cross linking agent at least two amino-containing resins of different reactivity (col. 3 lines 2-8);

at least one electrically conductive pigment (col. 3 lines 12-14, col. 4 lines 23-27).

Piana fails to disclose the number average molecular weight of the polyester.

Yamada discloses a polyester resin having number average from 1,000 to 5,000, preferably 2,000-4,000 in order to have the desired bending processability and compatibility property with the cross linking agent (col. 3 lines 5-12). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Piana in view of Yamada by having the number average molecular weight of polyester between 1,000-5,000 or 2,000 to 4,000 because it helps to control the bending processability and compatibility property with the cross linking agent.

Respect to claim 27, Piana teaches to use 10-50 wt% of the polyester (col. 2 lines 38-40). Respect to claim 28, Piana discloses the coating further comprises one or more of the following constituents: rust inhibitors (col. 5 lines 29-30; read on anticorrosion pigment); organic solvent (col. 5 lines 11-20); silicates (col. 5 lines 25). Respect to claims 29-30, Piana disclose the cross-linking agents comprises benzoguanamine-formaldehyde resins that have been at least partly etherified with methanol and malamine-formaldehyde resin have been at least partly etherified with methanol (col. 3 lines 2-8, col. 5 lines 1-11).

Respect to claim 31, Piana discloses to use benzoguanamine-formaldehyde having the molar ratio of melamine to formaldehyde from 1:4.5 to 1:6 and benzoguanamine-formaldehyde having a molar ratio of benzoguanamine to formaldehyde 1.2.5 to 1:4 (col. 3 lines 3-8). Piana fails to explicitly disclose the weight ratio of benzoguanamine-formaldehyde (B1) to melamine formaldehyde (B2). However, Piana clearly discloses the use both B1 and B2 and the molar ratio for each constituent. Any person having ordinary skill in the art would be able to convert molar ratio to weight ratio if the weight molecular and the amount of each constituent is known. It would have been obvious to one having ordinary skill in the art, at the time of invention, to perform routine experiment to select proper weight ratio because it has been held that determination of workable ranges is not considered inventive.

Respect to claim 32, Piana disclose the cross linking agent (B) is in the amount of 5-40 wt% (col. 3 lines 2-4, col. 10 lines 57-60, read on applicant's range of 1-10 wt%). Respect to claim 33, Piana disclose the conductive pigment C is selected from the group consisting of titanium dioxide, zinc oxide, iron oxides, silicates, chromium pigments (col. 5 lines 23-25, read on elemental silicon and metallic).

Respect to claim 40, Piana disclose the composition comprises 15-50 wt% of organic solvent (col. 3 lines 10-12, read on applicant's range of 3 to 70% by weight).

Respect to claim 45, both Piana and Yamada discloses coating a metal coil with a polymer coating (Piana's col. 45, Yamada's abstract). Respect to claim 43, Piana further disclose forming an automotive part or body, architectural articles from the coated metal coil (col. 5 lines 38-47).

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Piana and Yamada as applied to claims 23-24, 27-33, 40, 45 above, and further in view of Smith et al. (US 5,852,162).

Respect to claim 25, Piana and Yamada fail to disclose the polyester has molecular weight polydispersity of less than 10. However, both Piana and Yamada clearly disclose the present of polyester in the composition. Smith teaches to use polyester having polydispersity less than 2, preferably below 1.8 (abstract, col. 2 line 1-5). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Piana and Yamada in view of Smith by having polyester with polydispersity of less than 2 because low polydispersity polyester can be conveniently formed in a stepwise reaction. Further, it would have been obvious to one having ordinary skill in the art, at the time of invention, to perform routine experiment to select proper polydispersity value because it has been held that determination of workable ranges is not considered inventive.

10. Claims 26, 34, 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Piana and Yamada as applied to claims 23-24, 27-33, 40, 45 above, and further in view of Tanaka (US 5,623,003), hereinafter refer as Tanaka ('003)

Respect to claim 26, Piana and Yamada fail to disclose the polyester has a glass transition temperature of -20 to 50 °C. Tanaka discloses polyester having a glass transition temperature of -5 to 80 °C (abstract, col. 2 lines 15-20, read on applicants range). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Piana and Yamada by having a glass temperature as taught by

Tanaka ('003) because it provides a coating composition having excellent properties in corrosion resistance, boiling water resistance and fabrication properties (col. 1 lines 60-64).

Respect to claim 34, Piana teaches to use anticorrosion pigment. However, Piana fails to disclose the anticorrosion pigment is selected from the group consisting of zinc phosphate, zinc orthophosphate, Zinc metaborate and barium metaborate. Tanaka ('003) teaches to use zinc phosphate, barium metaborate, as the anticorrosion pigment (col. 6 lines 13-25). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Piana and Yamada in view of Tanaka ('003) by using anticorrosion pigment selected from the group consisting of zinc phosphate and barium metaborate because equivalent and substitution of one for the other would produce an expected result.

Respect to claims 36-37, Piana teaches to use catalysts (col. 5 lines 30-33). However, Piana fails to disclose the specific structure of the catalysts. Tanaka ('003) teaches to use catalyst selected form the group consisting of acidic epoxy resin-phosphoric acid adducts (i.e. Epikote TMcatalyst; see col. 4 lines 63 to col. 5 lines 10, col. 7 lines 50-55); and at least one other catalyst selected from the group consisting of block sulfonic acid (i.e. Nacure TM; See col. 7 lines 60-67). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Piana and Yamada in view of Tanaka ('003) by using catalyst selected from acidic epoxy resin-phosphoric acid adducts; and at least one other catalyst selected from the group consisting of block sulfonic acid because it provides a coating composition having

excellent properties in corrosion resistance, boiling water resistance and fabrication properties (col. 1 lines 60-64). Further, equivalent and substitution of one catalyst for the other catalyst would produce an expected result.

Respect to claim 38, Tanaka ('003) discloses the weight ratio of catalyst F1 (i.e. Epikote™) to catalyst F2 (Nacure™) is 20:1 (See Table 1, example 2, 6). Respect to claims 39, Tanaka does not explicitly disclose the weight percentage of the catalysts in the coating composition. However, Tanaka clearly discloses the amount of each ingredient in the composition in Table 1. Any person having ordinary skill in the art would be able to calculate the percentage of catalyst in the composition in Table 1 of Tanaka ('003).

In Table 1, example 2, the total amount of the composition is: $162.5 + 20 + 15 + 60 + 40 + 1 = 298.5$ part; The total amount of catalysts (Epikote and Nacure) is $20 + 1 = 21$. Therefore the weight percentage of the catalysts equals $21 / 298.5 * 100\% = 7.035\%$ (read on applicants' range of 0.5 to 10%).

Allowable Subject Matter

11. Claim 43 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
12. Claim 44 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
13. The following is a statement of reasons for the indication of allowable subject matter: The cited prior arts fail to disclose or suggest the step of adding the

constituents (H), (B1), (B2), (C), (J) and (G) in the stated order to the ground mixture (1) and then homogenizing the resulting mixture (2).

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh X. Tran whose telephone number is (571) 272-1469. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Binh X Tran
Primary Examiner
Art Unit 1792

/Binh X Tran/

Application/Control Number: 10/517,238

Art Unit: 1792

Primary Examiner, Art Unit 1792

Page 15